

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing

(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/JP2005/008576

International filing date (day/month/year)
28.04.2005

Priority date (day/month/year)
07.05.2004

International Patent Classification (IPC) or both national classification and IPC
H04L1/06, H04L25/02, H04B7/08

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

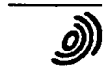
If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2005/008576

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2005/008576

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2,3,6-8,11,12,15-18
	No: Claims	1,4,5,9,10,13,14
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: EP-A-1 359 684

D2: EP-A-1 445 886

D3: EP-A-0 893 888

Claim 1

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses a channel-estimating apparatus comprising:
an input unit operable to receive several pieces of channel information from a plurality of receivers, said plurality of receivers being operable to perform MIMO communication through a plurality of channels (Fig. 4);
an estimating unit operable to collectively estimate statuses of the plurality of channels in accordance with the several pieces of channel information received by said input unit, whereby estimation results are generated (Fig. 4); and
an output unit operable to feed the estimation results into said plurality of receivers (Fig. 4).

Consequently, the features of independent Claim 1 are already known from Document **D1** and thus the subject-matter of Claim 1 is not novel. Claim 1 therefore does not meet the requirements of Articles 33(1) and (2) PCT.

It should be noted that even if the Applicant were to interpret Claim 1 in such a manner as to enable him to allege that its subject-matter were novel, based on minor differences between the features of this claim and those disclosed in **D1**, the subject matter of Claim 1 would still not involve an inventive step, Articles 33(1) and (3) of the PCT, with respect to the disclosure of **D1** especially as this document discloses the same object and the same type of solution as claimed in this claim.

Claims 9 and 10

2. The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 9 and 10, which therefore are also considered not new.

P-Document

3. The priority document was not available to the International Preliminary Examination Authority. The present written opinion assumes that the priority is valid. However, the "P" classified document D2 from the international search report could be taken into account in a regional phase if this assumption were to be proven incorrect.

Furthermore, should the Applicant decide to proceed further with a European procedure, it is judged useful at this stage to mention that the content of document D2 as filed is, pursuant to Articles 54(3) and (4) of the European Patent Convention, comprised in the state of the art relevant to the present application (i.e. D2 could be used for an objection with respect to novelty only). Due to its possible novelty destroying nature with respect to the claims 1 to 18, these claims should therefore be modified such that they satisfy the conditions of the Article 54(3) EPC.

Dependent Claims

4. The dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, the reasons being as follows:
Claim 2, 3, 11, 12: common knowledge
Claims 4, 5, 13, 14: D1: Fig. 4;
Claims 6, 7, 8, 15, 16, 17: D1: page 6, lines 32-40; D3: Claim 1
Claim 18: simple design feature

Re Item VI

Certain documents cited

Certain published documents

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2005/008576

D2: EP-A-1 445 886

11.08.2004

30.01.2004

08.07.2003

The current written opinion is based on the assumption that all claims enjoy priority rights from the filing date of the priority document. If it later turns out that this is not correct, the document D2 cited in the International search Report could become relevant (see paragraph V.3 above).

Re Item VII

Certain defects in the international application

1. In view of Rule 5.1(a)(ii) PCT, the above cited document D1 should be identified in the description and the relevant background art disclosed therein should be briefly discussed in the description.
2. The description should be in conformity with the claims as required by Rule 5.1(a)(iii) PCT.
3. The features of the claims should be provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
4. Independent claims 9, 10 and 11 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
5. During revision of the application, due care should be taken that the amendments do not go beyond the disclosure in the international application as filed (Article 34(2)(b)).

In order to facilitate the examination of amended application documents in view of Article 34(2)(b) PCT, the Applicant is requested to clearly mark the amendments carried out, be it for amendments by addition, replacement or deletion and to indicate on which parts of the originally filed application documents these amendments are based (see also Rule 66.8 a) PCT).

The marking of the amendments could be done in manuscript on copies of the concerned parts of the originally filed application documents.

Re Item VIII

Certain observations on the international application

1. The vague and imprecise statement in the description on page 27, lines 21-22 (reference to the "spirit" of the invention) implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them.
2. The cited patent applications on page 1, lines 18-20 should be cited with their publication numbers.